

PUMPING PLANT EFFICIENCY TEST
DIESEL

SWCD _____ FIELD OFFICE _____

COOPERATOR _____ ENG. JOB CLASS _____ LOCATION _____

PROGRAM _____ CONTRACT NO. _____ CIN _____ FIELD NO. _____

EVALUATED BY _____ DATE _____ WELL I.D. _____

1. WELL YIELD = _____ GPM

2. ACRE INCHES/HOUR = _____ GPM

/ 450 GPM/AC.IN./HR. = _____ AC. IN./HR

3. FUEL CONSUMPTION

STARTING WEIGHT = _____ LB.

TIME = _____ HR _____ MIN _____ SEC.

ENDING WEIGHT = _____ LB.

TIME = _____ HR _____ MIN _____ SEC.

ELAPSED TIME = _____ HR _____ MIN _____ SEC. = _____ HR.

FUEL CONSUMED = _____ LB.

/ 7.08 LB./GAL = _____ GAL.

FUEL CONSUMPTION = _____ GAL.

/ _____ HR. = _____ GAL./HR.

4. FUEL COST/HR

FUEL CONSUMPTION = _____ GAL./HR.

FUEL COST/GAL X \$ _____ /GAL.

FUEL COST/HR. = \$ _____ /HR.

5. FUEL COST/ACRE-INCH

FUEL COST/HR. = \$ _____ /HR.

ACRE INCHES/HOUR / _____ AC. IN./HR.

= \$ _____ /AC.IN.

5. DRAWDOWN

PUMPING LIFT = _____ FT.

STATIC WATER LEVEL - _____ FT. = _____ FT.

7. TOTAL DYNAMIC HEAD

A. TOTAL PUMPING LIFT = _____ FT.

B. DISCHARGE PRESSURE = (_____ psi) (2.31) = _____ FT.

C. COLUMN PIPE HEAD LOSS (ESTIMATE) = _____ FT.

D. TOTAL DYNAMIC HEAD = _____ FT.

8. WATER HORSEPOWER

$$\begin{aligned} &= \frac{(\text{TOTAL DYNAMIC HEAD}) (\text{GPM})}{3960} = \frac{(\quad \text{Ft}) (\quad \text{GPM})}{3960} \\ &= \quad \quad \quad \text{WATER HP} \end{aligned}$$

9. INPUT HORSEPOWER

$$\begin{aligned} &(\text{FUEL CONSUMPTION}) (54.43) = \quad \quad \quad \text{GAL/HR} \\ &\quad \quad \quad \times 54.43 \text{ HP HR/GAL} \\ &= \quad \quad \quad \text{INPUT HP} \end{aligned}$$

10. OVERALL EFFICIENCY

$$\begin{aligned} &= \frac{(\text{WATER HP}) (100)}{\text{INPUT HP}} = \frac{(\quad \text{HP}) (100)}{\quad \text{HP}} \\ &= \quad \quad \quad \% \end{aligned}$$

11. COMPARISON TO NATIONAL STANDARD OF 20.1%

$$\begin{aligned} &\text{PERFORMANCE COMPARISON \%} \\ &= \frac{(\text{OVERALL EFFICIENCY \%}) \times 100}{20.1} = \frac{\quad \% \times 100}{20.1} \\ &= \quad \quad \quad \% \end{aligned}$$

12. POTENTIAL % SAVINGS

$$\begin{aligned} &100 - \text{PERFORMANCE COMPARISON \%} \\ &= 100 - \quad \quad \quad \% \\ &= \quad \quad \quad \% \end{aligned}$$

13. ANNUAL FUEL COST

$$\begin{aligned} &(\text{FUEL COST/HR.}) = \$ \quad \quad \quad \\ &\times (\text{MONTHS OPERATED /YR.}) \quad \times \quad \quad \quad \\ &\times (30 \text{ DAYS/MO.}) \quad \times \quad \quad \quad 30 \\ &\times (24 \text{ HRS./DAY}) \quad \times \quad \quad \quad 24 \\ &= \$ \quad \quad \quad \end{aligned}$$

14. DOLLAR SAVINGS PER YEAR

$$\begin{aligned} &\frac{(\text{ANNUAL FUEL COSTS}) \times (\text{POTENTIAL \% SAVINGS})}{100} \\ &= (\$ \quad \quad \quad) \times (\quad \quad \quad \%) \\ &= \$ \quad \quad \quad \end{aligned}$$

15. RECOMMENDATIONS _____
